

## Chapter 1 | Chemicals

### Test Yourself

1. What is the difference between an atom and a molecule?
2. What is the chemical name for baking soda? And its formula?
3. Write the equation for carbonic acid splitting into water and carbon dioxide.
4. A solution of table salt in water is an example of an electrolyte.  
What ions are present in this solution?
5. What element is always present in proteins but not usually in fats or carbohydrates?
6. List three differences between glucose and glycogen.
7. Which will provide you with the most energy – one gram of sugar or one gram of butter?

See next page for answers

## Chapter 1 | Chemicals

### Test Yourself Answers

1. What is the difference between an atom and a molecule?  
An atom is the simplest building block of matter – elements are made of atoms. Molecules are made of atoms joined together.
2. What is the chemical name for baking soda? And its formula?  
Baking soda,  $\text{NaHCO}_3$
3. Write the equation for carbonic acid splitting into water and carbon dioxide.  
 $\text{H}_2\text{CO}_3 = \text{CO}_2 + \text{H}_2\text{O}$
4. A solution of table salt in water is an example of an electrolyte.  
What ions are present in this solution?  
4.  $\text{Na}^+$  and  $\text{Cl}^-$  (also  $\text{H}^+$  and  $\text{OH}^-$ )
5. What element is always present in proteins but not usually in fats or carbohydrates?  
Nitrogen
6. List three differences between glucose and glycogen.  
Glucose is a monosaccharide, glycogen is a polysaccharide (and a much bigger molecule); glucose is sweet to taste and dissolves in water, glycogen is not sweet and is insoluble; glucose is used for energy whereas glycogen stores energy.
7. Which will provide you with the most energy – one gram of sugar or one gram of butter?  
Fats provide approximately 2.5 times more energy than carbohydrates – so the butter wins hands down!